

# HERCULUX Chengdu HercuLux Photoelectric 恒坤光电 Technology Co.,Ltd **Product Approval**

Approval number :

Customer :

Manufacturer : Chengdu HercuLux Photoelectric Technology Co.,Ltd

PN	Code	Product
HK-HG-25@13-15-D4-21-1g-1	1.01.92131	HK Dark 25@13-15° lens
HK-HG-25@13-24-D4-21-1g-1	1.01.92022	HK Dark 25@13-24° lens
HK-HG-25@13-36-D4-21-1g-1	1.01.92065	HK Dark 25@13-36° lens
HK-HG-25@13-50-D4-21-1g-1	1.01.92005	HK Dark 25@13-50° lens



	Supplier confirmation	Client confirmation						
Proposed	DATE	Qualified□		5.175				
Project manager	DATE	Unqualified□		DATE				
Audit	DATE	Audit		DATE				
Approved	DATE	Approved		DATE				
Stamp	DATE	Stamp		DATE				

(Confirmation of acceptance by both parties must be signed and sealed)

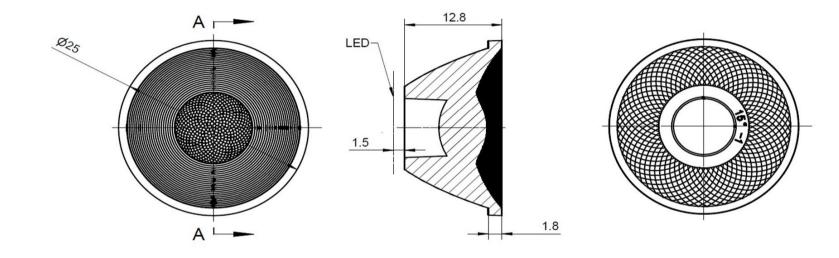
Factory: Chengdu Shuangliu District, Iot industrial park 2 road HercuLux Photoelectric Park Phone: 028-85887727 (801) 028-85887990 (801) Fax: 028-85887730 www.hkoptics.com Sales Dept: Shenzhen Nanshan District Nanshan Cloud Valley Innovation Industrial Park Comprehensive Service Building, 501-TEL: 0755-2937 1541 FAX: 0755-2907 5140

\*Approval In duplicate, for both supplier and customer.



TEL: 0755-2937 1541	FAX: 0755-2907 5140	www.hkoptics.com	Date updated: 2020/7/24
Product Picture:			
PN:		HK-HG-25@13-15-D4-21	l-1g-1
Size(L*W*H/Φ*H):		Φ25mm*H12.8mm	
Material:		РММА	
Effiency:		X	
Temperature(Topr):		-40°C to +80°C	
FWHM:		15°、24°、36°、50°	5 
Matched LES:		D4	





#### Technical remark:

MT5

Tolerance

table (mm) olerance valu

1. The 3D map is not indicated for rounded corners and draft angle.

<3

±0.1

2. The dimensional tolerances are not specified according to GB/T 14486 2008 N

3~10

±0.15

24~65

±0.35

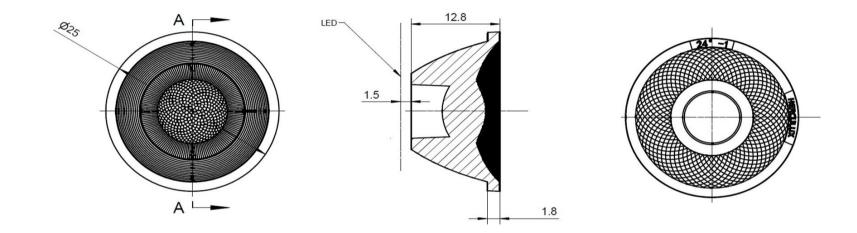
3, The surface has no flash, shrinkage, bubbles and other defects.

Basic size

		Optical	design						ŀ	HK-HG-2	25@13-15-D4-3	21-1g-1
2008 MT5.		itructur	e desig				HK Dark	1.01.92131				
		Rev	view					umber of	drawin	qty	weight	
		Valid	ation	tion			Material:	PMMA	СDНК			
65~140	140~	~250	250~	~450	>	450						
±0.50	±0	.80	±1	l.2	±2	2.0						







MT5

Tolerance

table (mm) olerance valu

1. The 3D map is not indicated for rounded corners and draft angle.

2. The dimensional tolerances are not specified according to GB/T 1448

3~10

±0.15

3, The surface has no flash, shrinkage, bubbles and other defects.

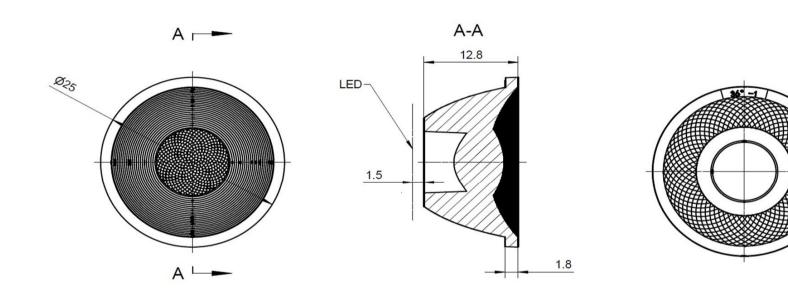
Basic size

<3

±0.1

ft angle.	angle.									HK-HG-25@13-24-D4-21-1g-1			
o GB/T 14486	2008 MT5.		itructur	e desig				HK Dark	25@13-24°lens		1.01.92022		
fects.		Rev	view						umber o	f drawin	qty	weight	
			Valid	ation				Material:	PMMA	СДНК			
24~65	65~140	140	~250	250~	~450	>	450						
±0.35	±0.50	±0	.80	±1	.2	±2	2.0						

HERCULUX 恒坤光电



<b>Technical</b> re	emark:
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MT5

Tolerance

table (mm) olerance valu

1. The 3D map is not indicated for rounded corners and draft ar

2. The dimensional tolerances are not specified according to GB

3~10

±0.15

3, The surface has no flash, shrinkage, bubbles and other defect

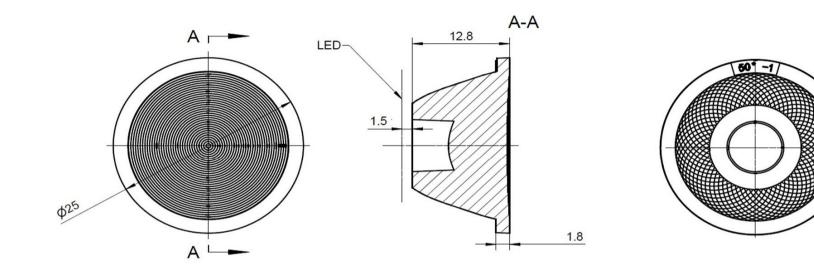
<3

±0.1

Basic size

angle.	angle.									HK-HG-25@13-36-D4-21-1g-1			
GB/T 14486	2008 MT5.		itructur	e desig				HK Dark			1.01.92065		
ects.			Rev	view					umber o	f drawin	qty	weight	
			Valid	ation				Material:	PMMA			CDHK	
24~65	65~140	140	~250	250~	~450	>	450						
±0.35	±0.50	±0	.80	±1	.2	±2	2.0						





#### Technical remark:

MT5

Tolerance

table (mm) olerance valu

1. The 3D map is not indicated for rounded corners and draft angle.

<3

±0.1

2. The dimensional tolerances are not specified according to GB/T 14486

3~10

±0.15

24~65

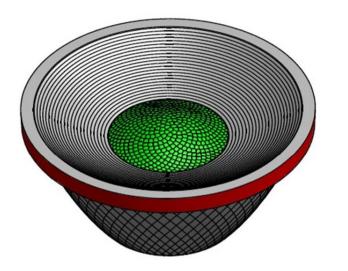
±0.35

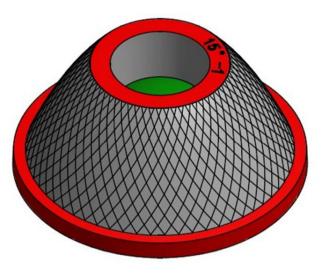
3, The surface has no flash, shrinkage, bubbles and other defects.

Basic size

			Optical	design							HK-HG-2	25@13-50-D4-2	21-1g-1	
186 2	008 MT5.		tructur	e desig				HK Dark			1.01.92005			
Review Validati			Rev	view					umber of drawin qty weig				nt	
			ation				Material:	PMMA			CDHK			
5	65~140	140~	~250	250~	~450	>	450							
	±0.50	±0.	.80	±1	.2	±2	2.0							

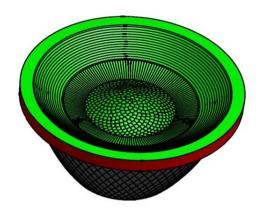




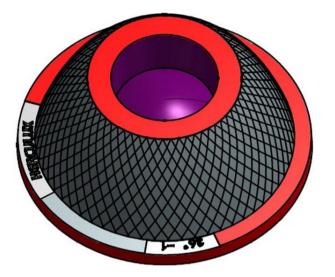


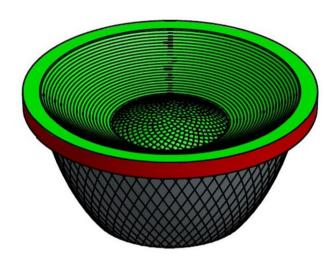




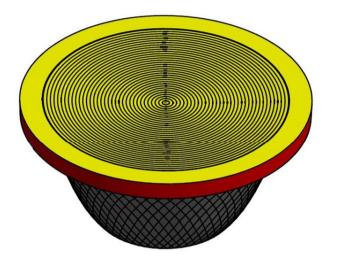


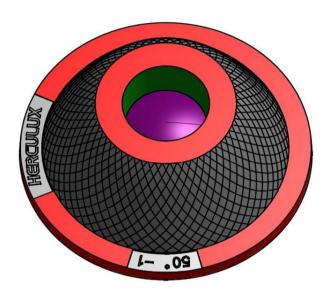




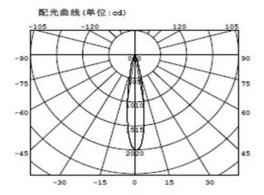


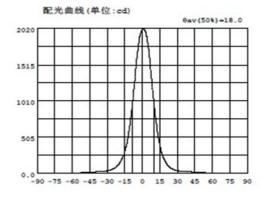












光强分布数据:(角度°,光强cd) C0-180

角度	光强	角度	光强	角度	光强	角度	光强	角度	光强	角度	光强
-90.0	0.7344	-58.5	7.728	-27.0	48.45	4.5	1843	36.0	27.50	67.5	5.808
-88.5	0.9839	-57.0	8.223	-25.5	57.80	6.0	1650	37.5	25.88	69.0	5.466
-87.0	1.418	-55.5	8.804	-24.0	70.57	7.5	1401	39.0	24.21	70.5	5.131
-85.5	3.023	-54.0	9.503	-22.5	87.91	9.0	1142	40.5	22.57	72.0	4.818
-84.0	2.734	-52.5	10.37	-21.0	111.3	10.5	903.4	42.0	21.02	73.5	4.483
-82.5	2.129	-51.0	11.33	-19.5	142.9	12.0	699.5	43.5	19.55	75.0	4.152
-81.0	2.513	-49.5	12.40	-18.0	184.1	13.5	532.0	45.0	18.07	76.5	3.835
-79.5	2.840	-48.0	13.58	-16.5	237.2	15.0	403.3	46.5	16.70	78.0	3.537
-78.0	3.102	-46.5	14.81	-15.0	306.9	16.5	296.1	48.0	15.33	79.5	3.269
-76.5	3.396	-45.0	16.08	-13.5	398.9	18.0	225.7	49.5	14.04	81.0	3.005
-75.0	3.736	-43.5	17.48	-12.0	522.5	19.5	171.6	51.0	12.81	82.5	2.715
-73.5	4.054	-42.0	18.89	-10.5	687.6	21.0	130.8	52.5	11.69	84.0	2.453
-72.0	4.382	-40.5	20.41	-9.0	890.4	22.5	101.0	54.0	10.69	85.5	3.188
-70.5	4.734	-39.0	22.02	-7.5	1129	24.0	79.72	55.5	9.784	87.0	2.660
-69.0	5.074	-37.5	23.83	-6.0	1385	25.5	64.17	57.0	9.050	88.5	1.697
-67.5	5.433	-36.0	25.76	-4.5	1631	27.0	52.86	58.5	8.446	90.0	1.385
-66.0	5.755	-34.5	27.80	-3.0	1823	28.5	44.72	60.0	7.903		
-64.5	6.129	-33.0	30.09	-1.5	1947	30.0	39.04	61.5	7.415		
-63.0	6.500	-31.5	33.07	0.0	2009	31.5	34.92	63.0	6.974	6 S	
-61.5	6.867	-30.0	36.80	1.5	2014	33.0	31.79	64.5	6.572		
-60.0	7.285	-28.5	41.78	3.0	1964	34.5	29.42	66.0	6.164		

# 电学参数:

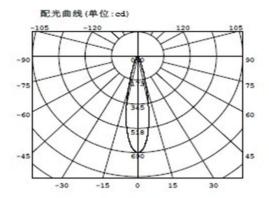
电流:	0.1000A	功率:	3.299W
电压:	33.00V	功率因数:	1.000

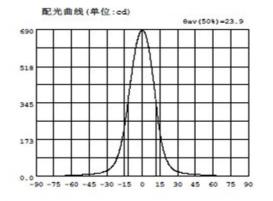
# 光学参数(测试距离2.410m):

等效光通量: #eff = 320.51m 光效: Eff=97.161m/W
最大光强扩散角: 0(25%): 25.8° 0(50%): 18.0° 0(75%): 12.0° 0(50%): 18.0°
中心光强扩散角: 0(25%): 26.0° 0(50%): 18.0° 0(75%): 12.0° 0(50%): 18.0°
最大光强Imax= 2018cd (C=0.0°,G=1.0°)
C0-180平面Imax= 2018cd (G=1.0°)
C0-180平面I0= 2009cd

IES——







#### 光强分布数据:(角度°,光强cd) CO-180

角度	光强	角度	光强	角度	光强	角度	光强	角度	光强	角度	光强
-90.0	0.7796	-58.5	4.851	-27.0	36.97	4.5	633.9	36.0	13.76	67.5	2.884
-88.5	0.8137	-57.0	5.183	-25.5	45.20	6.0	590.7	37.5	12.58	69.0	2.718
-87.0	0.9506	-55.5	5.572	-24.0	56.28	7.5	535.9	39.0	11.60	70.5	2.544
-85.5	1.176	-54.0	5.999	-22.5	71.41	9.0	473.2	40.5	10.77	72.0	2.403
-84.0	1.357	-52.5	6.472	-21.0	91.33	10.5	405.5	42.0	10.04	73.5	2.256
-82.5	1.539	-51.0	6.979	-19.5	117.3	12.0	329.8	43.5	9.358	75.0	2.099
-81.0	1.731	-49.5	7.563	-18.0	150.2	13.5	264.0	45.0	8.746	76.5	1.933
-79.5	1.889	-48.0	8.148	-16.5	190.1	15.0	207.9	46.5	8.169	78.0	1.803
-78.0	2.049	-46.5	8.816	-15.0	236.9	16.5	161.0	48.0	7.595	79.5	1.637
-76.5	2.228	-45.0	9.492	-13.5	292.7	18.0	123.8	49.5	7.051	81.0	1.499
-75.0	2.377	-43.5	10.27	-12.0	353.8	19.5	94.69	51.0	6.512	82.5	1.360
-73.5	2.547	-42.0	11.07	-10.5	418.5	21.0	73.10	52.5	6.010	84.0	1.195
-72.0	2.728	-40.5	12.00	-9.0	481.8	22.5	57.26	54.0	5.560	85.5	1.057
-70.5	2.909	-39.0	13.02	-7.5	539.8	24.0	45.75	55.5	5.151	87.0	0.9103
-69.0	3.091	-37.5	14.22	-6.0	589.9	25.5	37.23	57.0	4.761	88.5	0.7957
-67.5	3.294	-36.0	15.64	-4.5	631.2	27.0	30.87	58.5	4.392	90.0	0.8000
-66.0	3.489	-34.5	17.45	-3.0	662.3	28.5	26.07	60.0	4.055		
-64.5	3.706	-33.0	19.66	-1.5	681.0	30.0	22.38	61.5	3.770		
-63.0	3.944	-31.5	22.43	0.0	688.3	31.5	19.46	63.0	3.523		
-61.5	4.206	-30.0	25.98	1.5	683.1	33.0	17.11	64.5	3.303		
-60.0	4.492	-28.5	30.73	3.0	665.3	34.5	15.22	66.0	3.079		

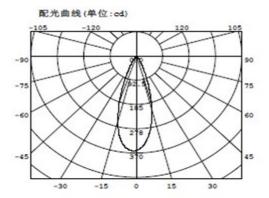
# 电学参数:

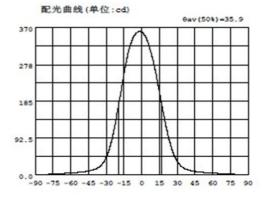
电流:	0.1000A	功率:	1.620W
电压:	16.20V	功率因数:	1.000

# 光学参数(测试距离2.410m):

等效光通量: #eff = 166.61m 光效: Eff=102.861m/W
最大光强扩散角: 0(25%): 33.2° 0(50%): 23.9° 0(75%): 16.0° 0(50%): 23.9°
中心光强扩散角: 0(25%): 33.2° 0(50%): 23.9° 0(75%): 16.0° 0(50%): 23.9°
最大光强Imax= 688.3cd (C=0.0°,G=0.0°)
C0-180平面Imax= 688.3cd (G=0.0°)
C0-180平面I0= 688.3cd







光强分布数据:(角度°,光强cd) CO-180

角度	光强	角度	光强	角度	光强	角度	光强	角度	光强	角度	光强
-90.0	1.175	-58.5	5.281	-27.0	69.31	4.5	340.6	36.0	16.83	67.5	3.313
-88.5	1.209	-57.0	5.660	-25.5	85.74	6.0	326.6	37.5	14.67	69.0	3.089
-87.0	1.515	-55.5	6.054	-24.0	104.9	7.5	312.2	39.0	12.98	70.5	2.876
-85.5	1.365	-54.0	6.500	-22.5	127.1	9.0	295.6	40.5	11.65	72.0	2.690
-84.0	1.368	-52.5	6.982	-21.0	151.2	10.5	276.5	42.0	10.64	73.5	2.499
-82.5	1.504	-51.0	7.494	-19.5	176.9	12.0	255.4	43.5	9.768	75.0	2.325
-81.0	1.685	-49.5	8.060	-18.0	201.8	13.5	232.2	45.0	9.036	76.5	2.137
-79.5	1.855	-48.0	8.645	-16.5	228.2	15.0	208.4	46.5	8.383	78.0	1.963
-78.0	2.057	-46.5	9.336	-15.0	254.8	16.5	184.4	48.0	7.829	79.5	1.791
-76.5	2.198	-45.0	10.10	-13.5	278.5	18.0	160.9	49.5	7.309	81.0	1.612
-75.0	2.399	-43.5	10.97	-12.0	299.7	19.5	138.0	51.0	6.809	82.5	1.476
-73.5	2.571	-42.0	12.00	-10.5	318.2	21.0	116.7	52.5	6.361	84.0	1.580
-72.0	2.773	-40.5	13.40	-9.0	332.4	22.5	97.40	54.0	5.953	85.5	1.438
-70.5	2.969	-39.0	15.07	-7.5	343.7	24.0	80.36	55.5	5.581	87.0	1.212
-69.0	3.214	-37.5	17.26	-6.0	351.7	25.5	65.41	57.0	5.221	88.5	1.143
-67.5	3.454	-36.0	20.13	-4.5	357.2	27.0	52.98	58.5	4.878	90.0	1.064
-66.0	3.674	-34.5	24.00	-3.0	360.2	28.5	42.78	60.0	4.567	6 6	
-64.5	3.984	-33.0	29.13	-1.5	360.9	30.0	34.72	61.5	4.289		
-63.0	4.240	-31.5	35.82	0.0	359.3	31.5	28.27	63.0	4.020		
-61.5	4.554	-30.0	44.44	1.5	355.1	33.0	23.36	64.5	3.777		
-60.0	4.891	-28.5	55.60	3.0	349.0	34.5	19.64	66.0	3.551		

# 电学参数:

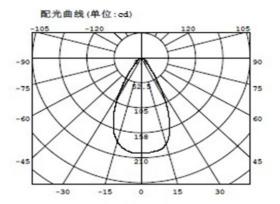
电流:	0.1000A	功率:	1.620W
电压:	16.20V	功率因数:	1.000

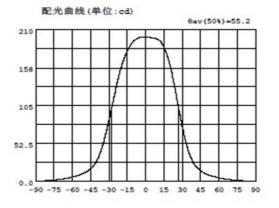
# 光学参数(测试距离2.410m):

等效光通量: #eff = 166.81m 光效: Eff=103.011m/W 最大光强扩散角: 0(25%): 48.2° 0(50%): 35.9° 0(75%): 24.9° 0(50%): 35.9° 中心光强扩散角: 0(25%): 48.2° 0(50%): 36.0° 0(75%): 25.0° 0(50%): 36.0° 最大光强Imax= 360.9cd (C=0.0°,G=-2.0°) C0-180平面Imax= 360.9cd(G=-2.0°)

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C0-180平面I0= 359.3cd





光强分布数据:(角度°,光强cd) C0-180

角度	光强	角度	光强	角度	光强	角度	光强	角度	光强	角度	光强
-90.0	0.7771	-58.5	6.796	-27.0	108.3	4.5	199.5	36.0	37.99	67.5	2.673
-88.5	0.8028	-57.0	7.524	-25.5	120.1	6.0	198.9	37.5	31.60	69.0	2.367
-87.0	0.8917	-55.5	8.356	-24.0	131.4	7.5	198.4	39.0	26.34	70.5	2.091
-85.5	0.9427	-54.0	9.242	-22.5	142.4	9.0	197.7	40.5	22.40	72.0	1.838
-84.0	0.9693	-52.5	10.20	-21.0	152.3	10.5	196.5	42.0	19.46	73.5	1.621
-82.5	1.046	-51.0	11.27	-19.5	161.1	12.0	194.3	43.5	17.01	75.0	1.471
-81.0	1.238	-49.5	12.49	-18.0	168.6	13.5	190.9	45.0	15.00	76.5	1.320
-79.5	1.275	-48.0	13.83	-16.5	175.1	15.0	186.3	46.5	13.26	78.0	1.194
-78.0	1.391	-46.5	15.52	-15.0	180.8	16.5	180.4	48.0	11.81	79.5	1.086
-76.5	1.545	-45.0	17.51	-13.5	185.8	18.0	173.1	49.5	10.51	81.0	0.9863
-75.0	1.750	-43.5	20.05	-12.0	189.9	19.5	164.2	51.0	9.463	82.5	0.9113
-73.5	1.994	-42.0	23.18	-10.5	193.3	21.0	153.8	52.5	8.513	84.0	0.8773
-72.0	2.288	-40.5	27.30	-9.0	195.8	22.5	142.1	54.0	7.692	85.5	0.8056
-70.5	2.609	-39.0	32.43	-7.5	197.7	24.0	129.5	55.5	6.909	87.0	0.7559
-69.0	2.970	-37.5	38.45	-6.0	199.0	25.5	116.2	57.0	6.244	88.5	0.7402
-67.5	3.391	-36.0	45.57	-4.5	199.8	27.0	102.6	58.5	5.596	90.0	0.7503
-66.0	3.881	-34.5	53.97	-3.0	200.3	28.5	89.26	60.0	4.967		
-64.5	4.392	-33.0	63.38	-1.5	200.1	30.0	76.66	61.5	4.409		
-63.0	4.954	-31.5	73.78	0.0	199.8	31.5	64.93	63.0	3.891		
-61.5	5.545	-30.0	84.80	1.5	199.8	33.0	54.60	64.5	3.425		
-60.0	6.136	-28.5	96.61	3.0	199.7	34.5	45.58	66.0	3.038		

# 电学参数:

电流:	0.1000A	功率:	1.620W
电压:	16.20V	功率因数:	1.000

# 光学参数(测试距离2.559m):

等效光通量: #eff = 181.91m 光效: Eff=112.311m/W
最大光强扩散角: 0(25%): 68.8° 0(50%): 55.2° 0(75%): 42.7° 0(50%): 55.2°
中心光强扩散角: 0(25%): 68.8° 0(50%): 55.3° 0(75%): 42.8° 0(50%): 55.3°
最大光强Imax= 200.3cd (C=0.0°,G=-2.5°)
C0-180平面Imax= 200.3cd (G=-2.5°)
C0-180平面I0= 199.8cd

#### Sample parameter test rep HK Dark 25@13-15°lens

# HERCULUX 恒坤光电

			andard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks
	diamet	er	25			24.9	24.91	24.93	24.92	$\backslash$	Test environment: In
1.Size	heigh	t	12.8			12.73	12.7	12.75	12.7	$\setminus$	20 °C -25 °C environment to achieve thermal equilibrium after the
	thickne	ess	1.8			1.75	1.74	1.76	1.74	$\setminus$	test.
		-		Gate s	hear can i	not affect th	ne appearar	nce of the la	amp		
				See a	ttachment	"Appearan	ice Inspecti	on Standar	ds"		
2.Appear	ance	Se attach "Annea	ment	E	٦	No burr	No burr	No burr	No bu	rr	ОК
Quality		Inspe	pearance E pection ndards"		N	o stains	No stains	No stains	No stai	ns	Ölt
3.Materia	al			PMMA			Color	Transparent			ОК
	The record to the sc	D4           he recommended size and power rating of the LED light source recommended for this lens should be comparable to the source of the test, if it is required to be out of range. According to the heat dissipation capability of the lamp									
	and the a FWH	e actual conditions of the use environment, the lens should be fully tested and tested to prevent the HM See light distribution curve							event the lens life.		
4.Optica I index			17 10						10.0	<u> </u>	_
1 maox	angle		17–19			18	17.9	18.1	18.2		
	K-val		0 <b>.</b>								
	Efficie			hite scaff	old)	89%	90%	90%	91%		
	Facula	See the	signatu	re sample							
	ehensive ment						Q	ualified			
Remarks: 1. Tool Number: V-Vernier Caliper 2D-Quadratic H- Height Gauge M-Tool Microscope P-Needle T- Thick Gauge R-Radius Gauge E-Visual. 2. Ambient temperature on the size of the product refer to the table on the right Precautions:					<b>s</b> 0.8 —	AA produc	et size char	nges with the second seco		→ S → S → S → S	able ize: 50mm ize: 100mm ize: 150mm ize: 200mm ize: 250mm ize: 300mm

 Wear clean gloves during lens assembly to prevent contamination of the lens surface.
 Take the lens try to avoid touching the total reflection surface.
 When the lens surface contamination, you can only gently wipe with soft cotton sticky neat neutral solvent, not allowed to wipe with industrial solvents. 4. The working temperature of the lens should be within the temperature limit of the lens material. Exceeding the

temperature limit will cause damage to the lens and affect the service life of the lens.

#### Sample parameter test rep HK Dark 25@13-24°lens

# HERCULUX 恒坤光电

		\$	Standard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks
	diamet	er	25			24.97	24.92	24.97	24.99	$\setminus$	Test environment: In
1.Size	heigh	t	12.8			12.72	12.77	12.74	12.81	$\setminus$	20 ℃ -25 ℃ environment to achieve thermal equilibrium after the
	thickness		1.8			1.74	1.79	1.77	1.76	$\setminus$	test.
				Gates	shear can i	not affect th	ne appearar	nce of the la	amp		
							ice Inspecti				
2.Appear	ance	atta	See chment earance	E	٦	No burr	No burr	No burr	No bu	rr	ОК
Quality		Insp	pection ndards"	L	N	o stains	No stains	No stains	No stai	ns	ÖK
3.Materia	ıl			PMMA			Color	Transparent			ОК
	Testing I	ED					D4		-		
	to the so and the a	The recommended size and power rating of the LED light source recommended for this lens should be comparable to the source of the test, if it is required to be out of range. According to the heat dissipation capability of the lamp and the actual conditions of the use environment, the lens should be fully tested and tested to prevent the lens life.									
4.Optica	FWH	N			See li			ion curve			
l index	angle	è		22-26			23.9	22.8	23		
	K-val	ue				1.49	1.51	/	/		
	Efficie	ency	85% (w	hite scaff	Cold)	90%	90%	91%	91%		
	Facula	See th	ne signatu	re sample		•					
	hensive ment						Q	ualified			
Caliper 2 Height G Microsco Thick Ga Gauge E 2、 Ambi the size c	Number: \ D-Quadra auge M-To pe P-Neeo uge R-Ra	tic H- ool dle T- dius erature luct ref	on	Length change (mm	s 0.8 —	A produc	ct size char	nges with			a <b>ble</b> iize: 50mm iize: 100mm iize: 150mm iize: 200mm iize: 250mm iize: 300mm
Precautio						(	on of the ler				

Wear clean gloves during lens assembly to prevent contamination of the lens surface.
 Take the lens try to avoid touching the total reflection surface.
 When the lens surface contamination, you can only gently wipe with soft cotton sticky neat neutral solvent, not allowed to

wipe with industrial solvents. 4. The working temperature of the lens should be within the temperature limit of the lens material. Exceeding the temperature limit will cause damage to the lens and affect the service life of the lens.

#### Sample parameter test rep HK Dark 25@13-36°lens

# HERCULUX 恒坤光电

Inspection Standards"       No stains       No stains       No stains       No stains         3.Material       PMMA       Color       Transparent       OK         Testing LED         The recommended size and power rating of the LED light source recommended for this lens should be comparable to the source of the test, if it is required to be out of range. According to the heat dissipation capability of the lamp and the actual conditions of the use environment, the lens should be fully tested and tested to prevent the lens life.												
1.Size       height       12.8       12.74       12.73       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>gme</td><td>Remarks</td></t<>											gme	Remarks
1.Size       height       12.8       12.74       12.73       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74       12.74 <t< td=""><td></td><td>diamet</td><td>er</td><td>25</td><td></td><td><math>\backslash</math></td><td>24.93</td><td>24.91</td><td>24.91</td><td>24.92</td><td><math>\backslash</math></td><td>Test onvironment: In</td></t<>		diamet	er	25		$\backslash$	24.93	24.91	24.91	24.92	$\backslash$	Test onvironment: In
thickness       1.8       1.76       1.8       1.78       1.78         Cade shear can not affect the appearance of the lamp See attachment "Appearance Inspection Standards"         Appearance Couality       See Appearance Inspection Standards"       No burr       No burr       No burr       No burr         Appearance Couality       See Appearance Inspection Standards"       E       No burr       No burr       No burr       No burr         Attachment 'Appearance Inspection Standards"       PMMA       Color       Transparent       OK         Amerial       PMMA       Color       Transparent       OK         Testing LED       D       D       Here commended for this lens should be comparability of the lens should be fully tested and tested to prevent the lens life.         4. Opticar       FWHM       See light distribution curve angle       Gaudity         Further actual conditions of the use environment, the lens should be fully tested and tested to prevent the lens life.       Fully tested and tested to prevent the lens life.         4. Opticar       Fully       See light distribution curve angle       Qualified         Comprehensive judgment       Cualified       FUMA product size changes with temperature table         Changes 0.4       Gauge E-Visual.       Size: 100mm Size: 300mm       Size: 20mm Size: 300mm       Size: 20mm Size: 300mm	1.Size	heigh	t	12.8			12.74	12.73	12.74	12.74	$\setminus$	20 °C -25 °C environment to achieve thermal equilibrium after the
See attachment "Appearance Inspection Standards"         2. Appearance Duality       See attachment "Appearance Inspection Standards"       No burr E       No burr No burr       No burr No burr       No burr No burr       No burr No burr       OK         3. Material       PMMA       Color       Transparent       OK         3. Material       PMMA       Color       Transparent       OK         4. Optica       Testing LED       D4       D4         The recommended size and power rating of the LED light source recommended for this lens should be comparable to the source of the test, if its required to be out of range. According to the heat dissipation capability of the lang and the actual conditions of the use environment, the lens should be fully tested and tested to prevent the lens life.         4. Optica       FWHM       See light distribution curve         I index       angle       32–37       33.5       34       35.9       34.2         Comprehensive judgment       Qualified       Qualified       Image Standards       See the signature sample       Size: 100mm         Kemarks: 1. Tool Number: V-Vernier Caliper 2D-Quadratic H- Height Gauge M-Tool Wicroscope P-Needle T- Thick Gauge R-Radius Gauge E-Visual.       Offee Size: 100mm       Size: 200mm       Size: 200mm         2. Ambient temperature on the size of the product refer to the table on the right       0.4       0.2       0.3		thickne	ess	1.8			1.76	1.8	1.78	1.78	$\setminus$	test.
See attachment Duality       See attachment Appearance       No burr Appearance       No burr Appearance       No burr PMMA       No burr No stains       No         4.Optica       FWHM       EWHM       See light distribution curve       It is required to be out of range. According to the heat dissipation capability of the lams bife.       Mo stains       Miter and according to the lams distribution curve         1 index       angle       32-37       33.5       34       35.9       34.2       Image according to the stain distribution curve       Miter according to the lams distribution curve       Miter according to the lams dist					Gate	shear can i	not affect th	ne appearar	nce of the la	amp		
Appearance Quality       attachment "Appearance Standards"       No burr E       No burr No burr       No												
Quality       Inspection Standards"       No stains       No stains       No stains       No stains       No stains       No stains         3.Material       PMMA       Color       Transparent       OK         3.Material       PMMA       Color       Transparent       OK         The recommended size and power rating of the LED light source recommended for this lens should be comparable to the source of the test, if it is required to be out of range. According to the heat dissipation capability of the lamp and the actual conditions of the use environment, the lens should be fully tested and tested to prevent the lens life.         4.Optica       FWHM       See light distribution curve         I index       angle       32-37       33.5       34       35.9       34.2         K-value       Efficiency       85% (white scaffold)       88%       87%       87.50%       86.50%         Facula       See the signature sample       Outlified       Outlified       PMMA product size changes with temperature table         Comprehensive judgment       Qualified       Inspection       Size: 50mm       Size: 50mm         1. Tool Number: V-Vernier caliper 2D-Ouadratic H- Height Gauge M-Tool Microscope P-Needle T- Thick Gauge R-Radius Gauge E-Visual.       0.4       0.4       0.4       Size: 200mm         2. Ambient temperature on the size of the product refer to the table on the right<	2.Appear	ance	atta	chment	F	1	No burr	No burr	No burr	No bu	rr	OK
Testing LED       D4         The recommended size and power rating of the LED light source recommended for this lens should be comparable to the source of the test, if it is required to be out of range. According to the heat dissipation capability of the lamp and the actual conditions of the use environment, the lens should be fully tested and tested to prevent the lens life.         4. Optical       FWHM       See light distribution curve         I index       angle       32-37       33.5       34       35.9       34.2         K-value       Efficiency       85% (white scaffold)       88%       87%       87.50%       86.50%         Facula       See the signature sample       Qualified         Comprehensive judgment       Qualified         Noticoscope P-Needle T-Thick Gauge R-Radius       0.6       0.4       5ize: 50mm         Sauge E-Visual.       0.4       0.4       0.2       0.4       5ize: 200mm         A. Ambient temperature on the size of the product refer to the table on the right       0.4       0.2       0.4       0.2       0.4       0.2         Sauge E-Visual.       0.4       0.2       0.0       0.0       0.2       0.4       5ize: 300mm         0.4       0.2       0.4       0.2       0.4       0.2       0.4       0.2       0.4       0.2       0.4       <	Quality		Ins	pection		N	o stains	No stains	No stains	No stai	ns	ÖR
A. Optical       The recommended size and power rating of the LED light source recommended for this lens should be comparable to the source of the test, if it is required to be out of range. According to the heat dissipation capability of the lamp and the actual conditions of the use environment, the lens should be fully tested and tested to prevent the lens life.         4. Optical       FWHM       See light distribution curve         I index       angle       32-37       33.5       34       35.9       34.2         K-value       K-value       See light distribution curve       Image: See the signature sample       Comprehensive       Qualified         Comprehensive       Qualified       PMMA product size changes with temperature table         Length       Changes       0.8       Size: 100mm         Nicroscope P-Needle T-       Nicroscope P-Needle T-       0.4       0.4       0.4         0.4       0.2       0       0.4       0.4       Size: 200mm         0.4       0.2       0       0.4       0.2       Size: 300mm         0.5       0.1       0.2       0       0       0       0	3.Materia	al			PMMA			Color	Tra	nsparent		ОК
A. Optical       The recommended size and power rating of the LED light source recommended for this lens should be comparable to the source of the test, if it is required to be out of range. According to the heat dissipation capability of the lamp and the actual conditions of the use environment, the lens should be fully tested and tested to prevent the lens life.         4. Optical       FWHM       See light distribution curve         I index       angle       32-37       33.5       34       35.9       34.2         K-value       K-value       See light distribution curve       Image: See the signature sample       Comprehensive       Qualified         Comprehensive       Qualified       PMMA product size changes with temperature table         Length       Changes       0.8       Size: 100mm         Nicroscope P-Needle T-       Nicroscope P-Needle T-       0.4       0.4       0.4         0.4       0.2       0       0.4       0.4       Size: 200mm         0.4       0.2       0       0.4       0.2       Size: 300mm         0.5       0.1       0.2       0       0       0       0		Testina I	ED					D4				
Index       angle       32-37       33.5       34       35.9       34.2         K-value       Efficiency       85% (white scaffold)       88%       87%       87.50%       86.50%         Facula       See the signature sample       `       Qualified         Comprehensive judgment       Qualified       Qualified         Remarks:       .       Comprehensive judgment       Qualified         Remarks:       .       .       .       .         1. Tool Number: V-Vernier Caliper 2D-Quadratic H-Height Gauge M-Tool Wicroscope P-Needle T-Thick Gauge R-Radius Gauge E-Visual.       0.6       .       .         2. Ambient temperature on the size of the product refer to the table on the right       .       .       .       .         2. Ambient temperature on the size of the product refer to the table on the right       .       .       .       .       .         2. Ambient temperature on the size of the product refer to the table on the right       .       .       .       .       .       .       .         2. On the table on the right       .       .       .       .       .       .       .       .       .         3. 0       .       .       .       .       .       .       .       . <t< td=""><td></td><td>to the sc</td><td colspan="10">to the source of the test, if it is required to be out of range. According to the heat dissipation capability of the lamp</td></t<>		to the sc	to the source of the test, if it is required to be out of range. According to the heat dissipation capability of the lamp									
alight       32-51       33.3       34       35.9       34.2         K-value       Efficiency       85% (white scaffold)       88%       87%       87.50%       86.50%         Facula       See the signature sample       V       Qualified       Qualified         Comprehensive judgment       Qualified       PMMA product size changes with temperature table         Remarks:       1. Tool Number: V-Vernier Caliper 2D-Quadratic H-Height Gauge M-Tool Microscope P-Needle T-Thick Gauge R-Radius Gauge E-Visual.       0.8       0.6       0.4       5ize: 100mm         2. Ambient temperature on the size of the product refero the table on the right       0.4       0.2       0       0.0       0.2       30       40         (TC)       (TC)       (TC)       (TC)       (TC)       (TC)       (TC)       (TC)	4.Optica	FWH	N				See li	ght distribut	ion curve			
Efficiency       85% (white scaffold)       88%       87%       87. 50%       86. 50%         Facula       See the signature sample       Qualified         Comprehensive judgment       Qualified         Remarks:       PMMA product size changes with temperature table         I. Tool Number: V-Vernier Caliper 2D-Quadratic H- Height Gauge M-Tool Microscope P-Needle T- Thick Gauge R-Radius Gauge E-Visual.       0.8 0.4 0.4 0.4 0.0 0       Size: 50mm 0.4 0.4 0.4 0.2 0       Size: 100mm 0.4 0.4 0.4 0.4 0.4 0.4         2. Ambient temperature on the size of the product refer to the table on the right       Size: 300mm       Size: 300mm	l index	angle	è		32-37			34	35.9	34.2		
Facula       See the signature sample         Comprehensive judgment       Qualified         Remarks:       1. Tool Number: V-Vernier Caliper 2D-Quadratic H- Height Gauge M-Tool Microscope P-Needle T- Thick Gauge E-Visual.       0.8 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4		K-val	ue				/		/	/		
Facula       See the signature sample         Comprehensive judgment       Qualified         Remarks:       1. Tool Number: V-Vernier Caliper 2D-Quadratic H- Height Gauge M-Tool Microscope P-Needle T- Thick Gauge E-Visual.       0.8 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4 0.4		Efficie	encv	85% (w	hite scaft	fold)	88%	87%	87.50%	86.50%		
Comprehensive judgment       Qualified         Remarks:       1. Tool Number: V-Vernier Caliper 2D-Quadratic H- Height Gauge M-Tool Microscope P-Needle T- Thick Gauge R-Radius Gauge E-Visual.       0.8 0.6 0.4 0.4 0.2 0       Size: 50mm 5size: 100mm 5size: 150mm 5size: 200mm 5size: 250mm 5size: 300mm 5size: 300mm (°C)							•					
PMMA product size changes with temperature table Remarks: 1. Tool Number: V-Vernier Caliper 2D-Quadratic H- Height Gauge M-Tool Microscope P-Needle T- Thick Gauge R-Radius Gauge E-Visual. 2. Ambient temperature on the size of the product refer to the table on the right	Compre	ehensive			[							
Remarks: 1. Tool Number: V-Vernier Caliper 2D-Quadratic H- Height Gauge M-Tool Microscope P-Needle T- Thick Gauge R-Radius Gauge E-Visual. 2. Ambient temperature on the size of the product refer to the table on the right Length 0.8 0.8 0.6 0.4 0.2 0 0 10 20 30 40 (°C)								Q	ualified			
Precautions:	1、Tool I Caliper 2 Height G Microsco Thick Ga Gauge E 2、Amb the size o	Number: N D-Quadra auge M-To pe P-Neee uge R-Ra uge R-Ra -Visual. ient tempe of the prod	tic H- ool dle T- dius erature luct re	e on	change	<pre></pre>		-		40		iize: 50mm iize: 100mm iize: 150mm iize: 200mm iize: 250mm
1. Wear clean gloves during lens assembly to prevent contamination of the lens surface.												

 Wear clean gloves during lens assembly to prevent contamination of the lens surface.
 Take the lens try to avoid touching the total reflection surface.
 When the lens surface contamination, you can only gently wipe with soft cotton sticky neat neutral solvent, not allowed to wipe with industrial solvents.

4. The working temperature of the lens should be within the temperature limit of the lens material. Exceeding the temperature limit will cause damage to the lens and affect the service life of the lens.

#### Sample parameter test rep HK Dark 25@13-50°lens

# HERCULUX 恒坤光电

	5	tandard size	Upper Size limit	Lower size limit	Test result1	Test result2	Test result3	Test result4	Jud gme nt	Remarks	
diamet	er d	iameter	25			24.96	25	24.98		24.97	
		height	12.8			12.75	12.77	12.78		12.75	
height	1 <sup>t]</sup>	hicknes s	1.8			1.79	1.79 1.8 1.79		1.78		
			Gate	shear can	not affect th	e appearar	nce of the la	amp			
			See a	attachmen	t "Appearan	ce Inspecti	on Standar	ds"			
rance	attac	hment	E		No burr	No burr	No burr	No bu	rr	ок	
	Inspe	ection		Ν	lo stains	No stains	No stains	No stai	ins		
al			PMMA			Color	Tra	nsparent		ОК	
The record to the so and the a	mmendo ource of actual co	the test,	if it is requi	ired to be	out of range ent, the lens	source reco According should be	to the heat fully tested	t dissipatio	n cap	ability of the lamp	
angle	<u>,</u>		50-60		55	54.9	54	54.5			
K-val	ue										
Efficie	ncy	82% (w	hite scaft	fold)	84%	85%	84.30%	85.50%			
Facula	See the	e signatu	re sample		`						
						Qı	ualified				
Number: V 2D-Quadra auge M-To pe P-Need auge R-Ra i-Visual. ient tempe of the prod	tic H- col dle T- dius erature c luct refe	on	change	n 25 0.8 —	MA produc	et size char	nges with		→ S → S → S → S → S	size: 50mm size: 100mm size: 150mm size: 200mm size: 250mm size: 300mm	
	height height rance al Testing I The record to the so and the a FWHM angle K-val Efficie Facula ehensive ment S: Number: V 2D-Quadra auge M-To puge R-Ra auge R-Ra couge R-Ra Co	height1 t. height1 t. rance Sattac "Appe Inspusion Stand Testing LED The recommendito the source of and the actual co FWHM angle K-value Efficiency Facula See the chensive ment See the chensive pe P-Needle T- auge R-Radius -Visual. ient temperature of	Image: Second	height       12.8         height1       thicknes s       1.8         height1       thicknes s       1.8         Gate       See attachment "Appearance Inspection Standards"       E         al       PMM/ Testing LED       E         The recommended size and power rest to the source of the test, if it is requirand the actual conditions of the use FWHM       50–60         K-value       82% (white scaft)         Facula       See the signature sample         ehensive ment       See the signature sample         S:       Length change (mm         S:       Length change (mm         S:       Length change (mm         S:       Length change (mm         S:       Length change (mm         S:       Length change (mm         S:       Length change         S:       Length change         S:       Length change         S:       Length         S: <td>height     12.8       height1     thickness s     1.8       Gate shear can See attachment "Appearance Inspection Standards"     E       A     PMMA       Testing LED     PMMA       Testing LED     PMMA       Testing LED     PMMA       FWHM     angle       angle     50–60       K-value     82% (white scaffold)       Facula     See the signature sample       Ehensive ment     0.6       S: Number: V-Vernier 2D-Quadratic H- sauge M-Tool ope P-Needle T- auge R-Radius -Visual.     0.4       Output     0.2       O     0.4</td> <td>height       12.8         height1       thicknes         s       1.8         Gate shear can not affect the See attachment "Appearance Inspection Standards"       No burr         No stains       No stains         al       PMMA         Testing LED       No stains         The recommended size and power rating of the LED light stothe source of the test, if it is required to be out of range and the actual conditions of the use environment, the lens         FWHM       See lig         angle       50–60         Facula       See the signature sample         ehensive       *         ment       *         PMMA product       0.6         0.4       0.2         0.4       0.2         0.5       0.4         0.6       0.4         0.7       0</td> <td>height       12.8       12.75         height1       thicknes s       1.8       1.79         Gate shear can not affect the appearance see attachment "Appearance Inspection Standards"         No burr       No burr         No burr       No burr         No burr       No burr         No burr       No burr         No burr         No burr       No burr         No burr       No burr         No burr         No stains         No stains         No stains         No stains         According and the actual conditions of the use environment, the lens should be         FWHM         See light distribut         angle         Facula See the signature sample         FMIMA product size char         Length changes         Cuadratic H- auge R-Radius         Number: V-Vernier         Cuadratic H- auge R-Radius         Imment         Quadratic H- auge R-Radius         Imment         <td cols<="" td=""><td>height       12.8       12.75       12.77         height1       thicknes       1.8       12.75       12.77         height1       thicknes       1.8       1.79       1.8         Gate shear can not affect the appearance of the la         See attachment         "Appearance       E       No burr       No burr       No burr         Inspection       E       No stains       No stains       No stains         al       PMMA       Color       Tra         Testing LED       D4       The recommended size and power rating of the LED light source recommended to the source of the test, if it is required to be out of range. According to the heat and the actual conditions of the use environment, the lens should be fully tested         FWHM       See light distribution curve         angle       50–60       55       54.9       54         Facula       See the signature sample      </td><td>height       12.8       12.75       12.77       12.78         height1       thickness       1.8       1.79       1.8       1.79         Gate shear can not affect the appearance of the lamp         See attachment "Appearance Inspection Standards"         No burr       No burr       No burr       No burr       No burr         Appearance       E       No stains       No stains       No stains       No stains         al       PMMA       Color       Transparent         Testing LED       D4         The recommended size and power rating of the LED light source recommended for this leme to the source of the test, if it is required to be out of range. According to the heat dissipatic and the actual conditions of the use environment, the lens should be fully tested and tested         FWHM       See light distribution curve         angle       50-60       55       54.9       54       54.5         K-value       Efficiency       82% (white scaffold)       84%       85%       84.30%       85.50%         Facula       See the signature sample       *       *       *       *       *         Physeratic H-aauge M-Tool pop P-Needle T-auge R-Radius       0.4       0.4       0.4       0.4       0.4       0.4       0.4<td>diameter       diameter       25       24.96       25       24.98         height       12.8       12.75       12.77       12.78         height1       thicknes       1.8       1.79       1.8       1.79         Gate shear can not affect the appearance of the lamp       See attachment "Appearance Inspection Standards"         rance       See attachment       No burr       No burr       No burr       No burr         Inspection       Standards"       E       No burr       No burr       No burr       No burr         Testing LED       PMMA       Color       Transparent         Testing LED       D4       D4       D4         The recommended size and power rating of the LED light source recommended for this lens should be fully tested and tested to pr         FWHM       See light distribution curve         angle       50–60       55       54.9       54       54.5         K-value       Efficiency       82% (white scaffold)       84%       85%       84.30%       85.50%         Facula       See the signature sample       0.4       0.2       0.4       0.2       0.4       0.2       0.4       0.2       0.4       0.2       0.5       54.9       54.5       55       <t< td=""></t<></td></td></td></td>	height     12.8       height1     thickness s     1.8       Gate shear can See attachment "Appearance Inspection Standards"     E       A     PMMA       Testing LED     PMMA       Testing LED     PMMA       Testing LED     PMMA       FWHM     angle       angle     50–60       K-value     82% (white scaffold)       Facula     See the signature sample       Ehensive ment     0.6       S: Number: V-Vernier 2D-Quadratic H- sauge M-Tool ope P-Needle T- auge R-Radius -Visual.     0.4       Output     0.2       O     0.4	height       12.8         height1       thicknes         s       1.8         Gate shear can not affect the See attachment "Appearance Inspection Standards"       No burr         No stains       No stains         al       PMMA         Testing LED       No stains         The recommended size and power rating of the LED light stothe source of the test, if it is required to be out of range and the actual conditions of the use environment, the lens         FWHM       See lig         angle       50–60         Facula       See the signature sample         ehensive       *         ment       *         PMMA product       0.6         0.4       0.2         0.4       0.2         0.5       0.4         0.6       0.4         0.7       0	height       12.8       12.75         height1       thicknes s       1.8       1.79         Gate shear can not affect the appearance see attachment "Appearance Inspection Standards"         No burr       No burr         No burr       No burr         No burr       No burr         No burr       No burr         No burr         No burr       No burr         No burr       No burr         No burr         No stains         No stains         No stains         No stains         According and the actual conditions of the use environment, the lens should be         FWHM         See light distribut         angle         Facula See the signature sample         FMIMA product size char         Length changes         Cuadratic H- auge R-Radius         Number: V-Vernier         Cuadratic H- auge R-Radius         Imment         Quadratic H- auge R-Radius         Imment <td cols<="" td=""><td>height       12.8       12.75       12.77         height1       thicknes       1.8       12.75       12.77         height1       thicknes       1.8       1.79       1.8         Gate shear can not affect the appearance of the la         See attachment         "Appearance       E       No burr       No burr       No burr         Inspection       E       No stains       No stains       No stains         al       PMMA       Color       Tra         Testing LED       D4       The recommended size and power rating of the LED light source recommended to the source of the test, if it is required to be out of range. According to the heat and the actual conditions of the use environment, the lens should be fully tested         FWHM       See light distribution curve         angle       50–60       55       54.9       54         Facula       See the signature sample      </td><td>height       12.8       12.75       12.77       12.78         height1       thickness       1.8       1.79       1.8       1.79         Gate shear can not affect the appearance of the lamp         See attachment "Appearance Inspection Standards"         No burr       No burr       No burr       No burr       No burr         Appearance       E       No stains       No stains       No stains       No stains         al       PMMA       Color       Transparent         Testing LED       D4         The recommended size and power rating of the LED light source recommended for this leme to the source of the test, if it is required to be out of range. 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According to the heat and the actual conditions of the use environment, the lens should be fully tested         FWHM       See light distribution curve         angle       50–60       55       54.9       54         Facula       See the signature sample      </td> <td>height       12.8       12.75       12.77       12.78         height1       thickness       1.8       1.79       1.8       1.79         Gate shear can not affect the appearance of the lamp         See attachment "Appearance Inspection Standards"         No burr       No burr       No burr       No burr       No burr         Appearance       E       No stains       No stains       No stains       No stains         al       PMMA       Color       Transparent         Testing LED       D4         The recommended size and power rating of the LED light source recommended for this leme to the source of the test, if it is required to be out of range. 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 Wear clean gloves during lens assembly to prevent contamination of the lens surface.
 Take the lens try to avoid touching the total reflection surface.
 When the lens surface contamination, you can only gently wipe with soft cotton sticky neat neutral solvent, not allowed to wipe with industrial solvents.

4. The working temperature of the lens should be within the temperature limit of the lens material. Exceeding the temperature limit will cause damage to the lens and affect the service life of the lens.

# Packaging Information

HERCULUX 恒坤光电

P	N	HK-HG-25@13-15-D4-2	1-1g-1	Product Name	HK Dark 25@	13-15°le	ens	
Product	material	PMMA		Customer				
Package diagram		Single Va	acuum packa	age Bo	x package	2	>	
Product	packing	44	A/ Box	4	Box/Layer			
		18	Layer/Box	3168	A/ Carton			
	NO.	Part No	Part name	Size	Dosage	Unit	Remarks	
	1	2.07.0093	Blister box	23cm*21cm	72	BAG		
Packagin	2	2.08.0001	PE film	30cm*30cm	72	PCS		
g Materials	3	2.06.0005	Reel label paper	6.2cm*8cm	72	PCS		
Materials	4	2.06.0005	Box label paper	6.2cm*9.2cm	1	PCS		
	5	2.06.0003	big plate	46.8cm*42.8cm	19	PCS		
	6	2.06.0011	big carton	46.8cm*42.8cm*30 m	<sup>5c</sup> 1	PCS		
Remarks	The loose packing is not subject to this specification. Customer's requirements shall prevail							

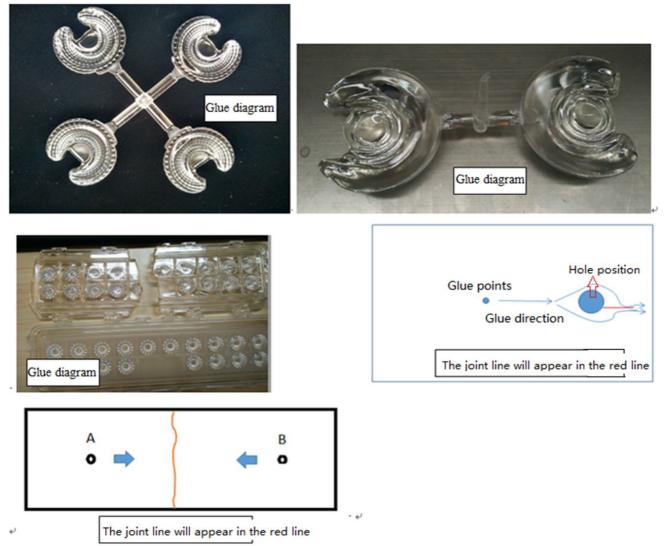


Annex I

### Special notice

When gule pass through holes, columns and other structures, or part of the thin structure, will form a weld line. The product which uses multi-point injection welding line will appear because of the combination of sol, as shown below:

Synmen



Please note :

The appearance of lines in the structure of the product as well as at the screw hole is a normal phenomenon, will not affect the actual use of the product, and can not be avoided at this stage.



#### Appearance inspection standards

#### 1 Operating procedures

1.1.1Sampling standards, sampling plan and AQL

Test level : GB/T2828.1-2012The first part is according to the acceptance quality limit (AQL) retrieval batch inspection sampling plan, general inspection level  $\Pi$  level, CR class defect coefficient 0, MA defect rejection level AQL = 0.65, MI class defect rejection level AQL = 1.0; defect level please see 5.4.

2 Code table

Code	Code description	Unit	Code	Code description	Unit
N	Amount/pcs	pcs	D	Diameter	mm
L	Length	mm	Н	Depth	mm
W	Width	mm	DS	Distance	mm
S	Proportion	mm²	SS	Offset	mm

#### 3 Test conditions

3.1 Sight distance and working hours: Sight distance should be 30-35cm, each side of the inspection time does not exceed 12s, the visual angle of 45-135 degrees;

3.2 Light: 2x40w cool white fluorescent lamp, the light source is 500-550mm away from the lens surface; in order to make the appearance defect can be correctly recognized, the illumination should be 500-1000Lux, and the observation time is 10 seconds.

3.3 Visual inspection staff should be 1.0 (including corrected visual acuity) above, no color blindness, color weakness.

#### 4 Appearance inspection standards

Test items	ludeing stondard	Inspection equipment	Defec	t level	
restitents	Judging standard	Testing method	МІ	MA	CR
	When start the machine and process, all products have to check the appearance of the sample, the appearance of the sample is divided into qualified samples and limited samples.				
Check the sample	1: Qualified sample refers to the appearance and structure standard of the product which recognized by the client, the sample size should be confirmed before mass production;	Sample comparison , visual			V

	2: The limited sample refers to the limit of a particular exceptionally developed sample. Limit the sample only for its specific point of exception to confirm; The priority is higher than the other criteria in this table. When there is a limited sample, the limit sample shall prevail.			
Raw edge	Not allowed to affect the size and assembly	Visual, point card	v	
Scratch	1: Non-optical surface and non-exposed surface scratches should be visually insignificant and the length is less than 1/10 of the maximum surface size.	Visual, point card, calipers	V	
Fingerprint	Fingerprints are not allowed on all products	Visual	v	
Foreign objects, black spots, white spots	The product may not be attached to foreign objects, including oil, fiber, dregs of water gap and so on			V
Deformation	Insufficient filling shall not affect the appearance of the assembly and the exposed surfaces.	Visual, feeler		V
Poor ejection	Products may not appear bad ejection, including no convex top, thimble printed on the assembly surface shall not be higher than the product surface, non-assembled surface thimble height should not exceed the product size tolerances; thimble printing should be less than the product surface and no more than 0.3; thimble surface treatment should be consistent with the product side. Ejection strain: the optical surface and the appearance of the exposed surface after assembly are not allowed to have a strain, and the structural surface does not allow	Visual, point card	V	
Insufficient filling	visual obvious strain. Insufficient filling shall not affect the appearance of the assembly and the exposed surfaces, The signature sample shall prevail.	Visual, point card	V	
Shrink	When the entire surface of the product shrinks, the optical properties and dimensions must meet the requirements, and the visual will not significantly affect the appearance.Part shrink reference point defects	Visual, point card	V	
Flow marks、Welding line	<ol> <li>Product does not allow the presence of flow marks and welding lines unless the structure can not be avoided;</li> <li>The remaining flow marks shall not appear</li> </ol>	Visual	V	
	in the optical surface, a single $L \le 10$ mm, no more than two			
Bubble	No bubbles are allowed	Visual	$\checkmark$	

Foreign objects, black spots, white spots	Not obvious or D ≤ 0.3mm black spots and foreign bodies in the area of 100x100mm not more than 1; Exceeded foreign matter black spots is judged bad.	Visual, point card	V		
Damaged	No damage is allowed	Visual			$\checkmark$
Cold glue	Optical surface may not have cold glue, non- optical surface cold glue should meet the visual is not obvious.	Visual	$\checkmark$		
Bad incision	1: Do not affect the product size, shall not penetrate the optical surface, the cut should be smooth;	Visual			
	2: Laser cutting products, the optical surface burns shall not occur after the processing is completed. Beading must not affect product installation				V
	3: Three molds and hot runner gate shall not appear residue.				
Scrub	Scrub surface should be uniform, off the scrub phenomenon should not be obvious , A single off scrub imprint requires $D \le 1 \text{ mm}$ and no more than 1 area within a 50x50 mm area	Visual		V	